

## Nematodes from Ecuador A new genus, four new and a known species (Dorylaimida)

By  
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**Abstract.** In the first part a new genus, *Incanema*, gen. n., and two new species of the family Leptonchidae are described from Ecuador. *Incanema* is primarily characterized by the shape and structure of the oesophagus cylindrus: it has a constricted anterior part and it penetrates with posterior end into the intestine. Type species: *I. quondam* sp. n. *Tylencholaimellus neotropicus* has very long spicula; it differs from the two sister-species of long spicula by presence of a conspicuous supplementary papilla in male.

In the second part two new and an old species of nematodes belonging to genera known only from South America so far, *Pachydorylaimus* and *Miodorylaimus*, respectively, are described. *Pachydorylaimus aequatorialis* sp. n. is characterized by a comparatively large body, cup-shaped amphids, well sclerotized vulval lips and long tail. *Pachydorylaimus andreasi* sp. n. differs from the other members of the genus in having unusually wide amphid apertures. *Miodorylaimus decens* ANDRÁSSY, 1986 is redescribed. All three species have been collected in Ecuador.

### L *Incanema* gen. n., and two new species of the family Leptonchidae

A rich nematode material collected in 1987 in Ecuador by Dr. I. LOKSA and Dr. A. ZICSI contains, among others, two interesting new species of the family Leptonchidae, for one of which a new genus, *Incanema* gen. n., shall be suggested.

#### *Incanema* gen. n.

Leptonchidae, Leptonchinae. Subcuticle loose and folded, with refractive elements. Head leptonchid, cap-like, offset by constriction. Spear thin but with distinct lumen. Oesophagus very slender, tubular in most part, then suddenly widened to a short, bulboid cylindrus possessing a distal piriform swelling offset by constriction. Proximal end of cylindrus surrounded by an intestine collar. Prerectum very long; intestine-prerectum junction located far anterior to mid-body. Amphidelphic. Male precloacal supplements spaced and located before the spicula. Tails of both sexes similar, short, rounded.

Type species: *Incanema quondam* sp. n.

The new genus belongs to the family Leptonchidae and to its type subfamily. It shows a combination of characteristics of some leptonchid genera like *Leptonchus* COBB, 1920, *Funaria* VAN DER LINDE, 1938, *Proleptonchus* LORDELLO, 1955 and *Apoleptonchus* SIDDIQI, 1982. In two phenomena however it differs from every of the mentioned as well as the other genera of Leptonchidae. First, a constricted swelling is present on the anterior end of cylindrus, second, the proximal end of cylindrus is penetrated into the intestine. Both these characters are constant and distinctly separate the genus from its relatives.

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Otherwise, *Incanema* can easily been distinguished – mentioning here only one or two characteristics – from *Leptonchus* by oesophagus constriction and straight spear extension, from *Funaria* by conspicuous spear lumen and transverse vulva, from *Proleptonchus* by perceptible spear lumen and amphidelphic gonads, from *Apoleptonchus* by very long prerectum and prevulval position of intestine-prerectum junction.

The word „Inca” in the name of the new genus is reverence to the memory of the late inhabitants of Ecuador, the Incas.

***Incanema quondam* sp. n.**

(Figs. 1 A-G and 2 A-D)

Holotype, female: L = 1.34 mm; a = 31; b = 4.4; c = 49; V = 65 %; c' = 1.0.

Female: L = 1.23–1.33 mm; a = 28–30; b = 4.5–4.8; c = 51–57; V = 60–65 %; c' = 0.9–1.1.

Male: L = 1.21–1.29 mm; a = 30–34; b = 4.7–5.4; c = 49–58; c' = 0.9–1.1.

Body 42–44 (female) or 36–40 (male)  $\mu\text{m}$  wide. Cuticle + subcuticle 2.5–3  $\mu\text{m}$  thick, occa- sionally thicker; outer layer thin and smooth, inner layer loose and folded, with radial refractive striae. Subcuticle especially at vulva and tail region thick or loose, with conspicuous radial dots. Labial region cap-like, 12–14  $\mu\text{m}$  wide, strongly set off from body. Body at posterior end of oesophagus 2.7–3 times as wide as head. Aphids caliciform, wider than half a corresponding body width.

Spear thin but with distinct lumen. Its length, 8–10  $\mu\text{m}$  or so, cannot be stated with certainty since it is gradually continued – without any transitional junction – into the extension. Aperture small; extension straight. Guiding ring thin. Oesophagus 250–300  $\mu\text{m}$  long, in most part very slender, tubular and non-muscular, suddenly widened in 81–85 % of its length. Cylindrus small, bulboid, 40–48  $\mu\text{m}$ , 2–2.3 times as long as wide. The cylindrus may be characterized by two constant phenomena: 1) Its anterior end is conspicuously set off and forms a piriform swelling. 2) Its posterior end penetrates into the intestine, or in other words, the cardial region of intestine forms a collar-like ring around the proximal end of the cylindrus. This intestine „collar” is either symmetrical – of the same length both ventral and dorsal – or, often, asymmetrical: longer on the one side (mostly ventral). Oesophageal nuclei well discernible, dorsal nucleus quite close to cylindrus constriction, anterior subventral nuclei at mid-cylindrus, posterior subventral nuclei closer to those than usual. Distance between posterior end of oesophagus and vulva 1.9–2 times as long as oesophagus.

Cardia flattened. Intestine consisting of two sections. The anterior, shorter part shows wide lumen and ends in 37–45 % of body length in a transverse „dike”. From the latter the intestine goes on as a narrow-lumened tube which is generally called prerectum. (Whether is it homologous with the short and wide-lumened prerectum of other Dorylaimida?) The posterior section of intestine, the „prerectum”, is very long, 710–760  $\mu\text{m}$  or 16–20 body widths: it starts always far anterior to vulva, even before the prevulval gonad. The intestine-prerectum junction is simple, not guarded by three cells being frequent in other leptonchid genera. Rectum 1.5–1.6 anal diameters long.

Vulva transverse, vagina as long as or somewhat longer than half a body width, 22–26  $\mu\text{m}$ , not sclerotized. Subcuticle with large lacunae on both sides of vulva. Amphidelphic; anterior gonad 5–5.3 times, posterior 4.4–4.8 times as long as body width. Uterus packed with sperm.

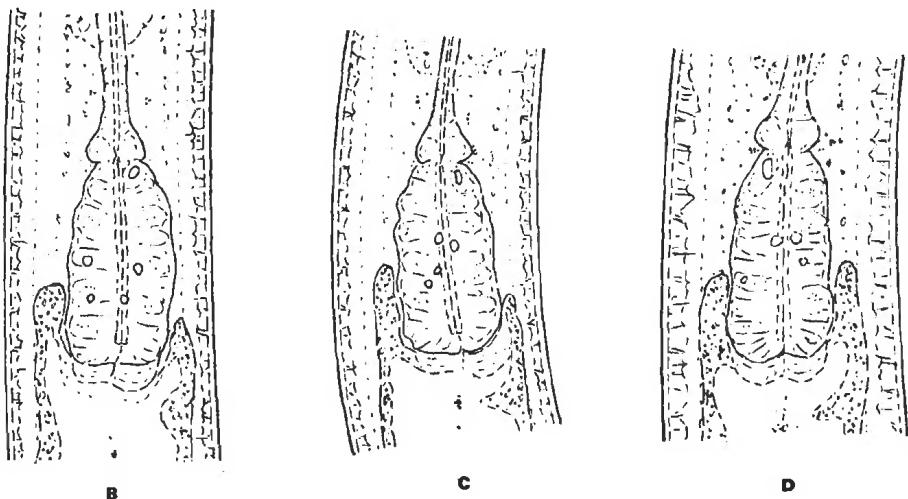
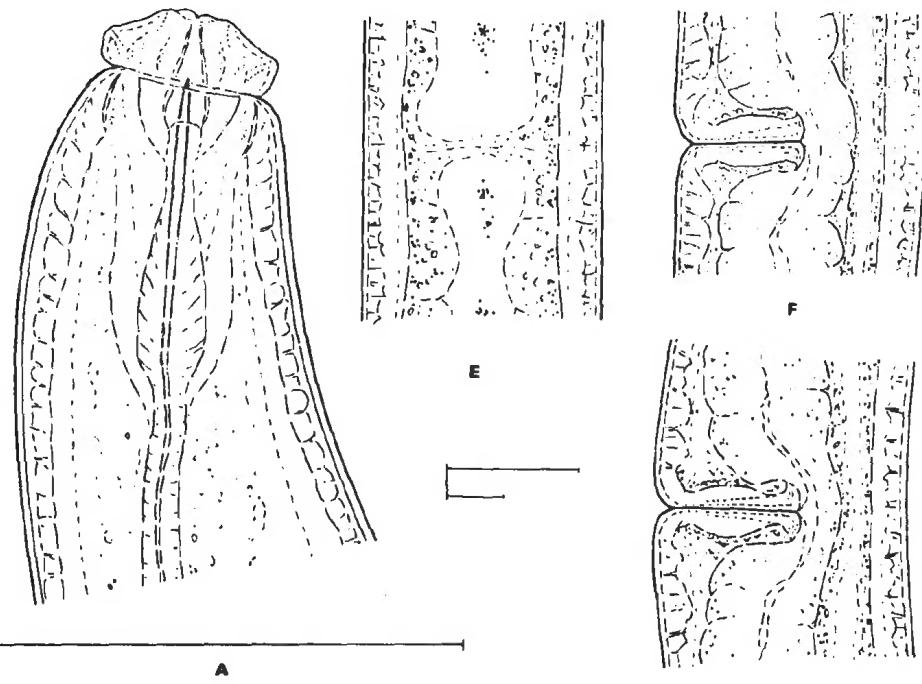


Fig. 1. *Incanema quondam* gen. n., sp. n. A: anterior region, and body width at proximal end of oesophagus; B-D: posterior ends of oesophagus in different specimens; E: intestine-prerectum junction; F-G: vulval regions of two females. (Bars = 10  $\mu\text{m}$  each; upper: A, lower: B-G)

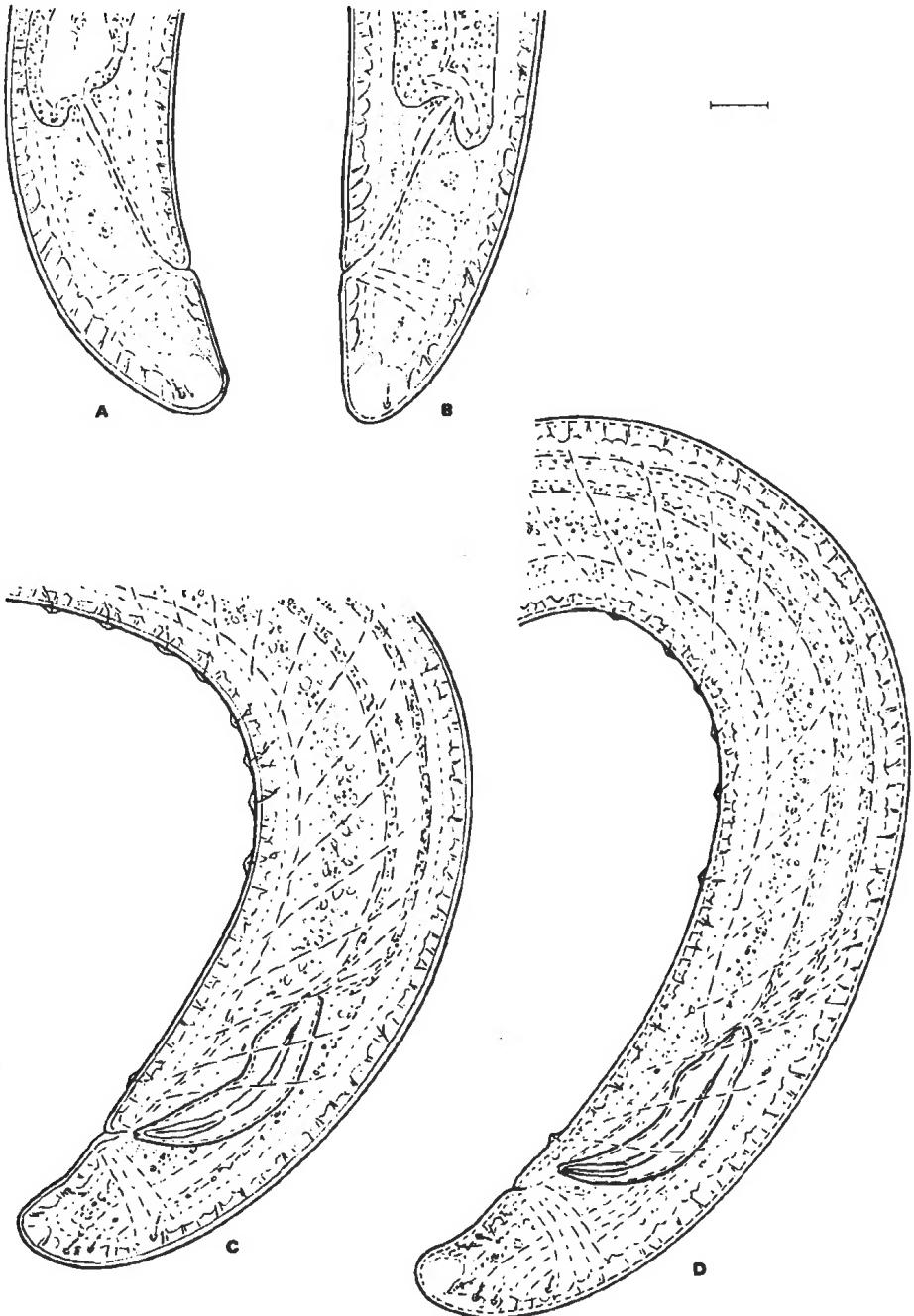


Fig. 2. *Incanema quondam* gen. n., sp. n. A-B: female tails; C-D: posterior ends of two males. (Bar = 10  $\mu$ m)

Distance between vulva and anus 16–22 times as long as tail. Tail 22–27  $\mu\text{m}$ , 0.9–1.1 anal diameter, 1.7–2 % of body length, short-conoid with rounded terminus.

Male prerectum similar in length to that of female; intestine-prerectum junction located anterior to testes. Testes paired. Spermatozoa fusiform, 8–9  $\mu\text{m}$ , about 1/5 as long as body width. Spicula 38–43  $\mu\text{m}$ , dorylaimid, lateral guiding pieces 1/4 (rarely nearly 1/3) as long as spicula. Preanal supplements 6–8 (6 in five animals and 8 in two), well separated, located anterior to spicula, posteriormost of them lying at 55–70  $\mu\text{m}$  from cloaca. Tail like in female, 22–24  $\mu\text{m}$ , 0.9–1.1 anal diameter, 1.7–2 % of body length.

**Holotype:** Female; Slide Number 13097. Paratypi: 2 females and two juveniles.

**Type locality:** Cashca Totoras, Prov. Bolívar, Ecuador; 3000 m above sea-level, rain forest, detritus from stems of *Bromelia* grown on trees; collected in April 1987 by I. LOKSA and A. ZICSI.

***Tylencholaimellus neotropicus* sp. n.**

(Fig. 3 A–G)

**Holotype, male:**  $L = 0.94 \text{ mm}$ ;  $a = 25$ ;  $b = 5.1$ ;  $c = 50$ ;  $c' = 0.8$ .

**Female:**  $L = 0.96\text{--}0.98 \text{ mm}$ ;  $a = 23\text{--}25$ ;  $b = 5.1\text{--}5.3$ ;  $c = 44\text{--}50$ ;  $V = 28\text{--}32 \%$ ;  $c' = 0.7\text{--}0.9$ .

**Male:**  $L = 0.92\text{--}1.00 \text{ mm}$ ;  $a = 25\text{--}28$ ;  $b = 5.2\text{--}5.6$ ;  $c = 45\text{--}48$ ;  $c' = 0.7\text{--}0.8$ .

Body fairly plump and cylindroid, 39–45 (female) or 33–38 (male)  $\mu\text{m}$  wide in mid-region. Cuticle 3–3.5  $\mu\text{m}$  thick, on tail 5–6  $\mu\text{m}$ , consisting of two distinct layers. Cuticle surface smooth, inner layer radially striated, especially marked on tail. Labial region rounded, hardly separated from body, 9–10  $\mu\text{m}$  wide; lips amalgamated. Body at proximal end of oesophagus 3.5–3.7 times as wide as head. Amphids of 1/2 corresponding diameter or somewhat wider.

Spear and extension cannot be separated clearly, their common length is 24–25  $\mu\text{m}$ , 2.5 labial diameters or 13–14 % of entire length of oesophagus. Dorsal stiffening piece distinct, occupying nearly 2/3 spear length. Extension flanged. Oesophagus 180–184  $\mu\text{m}$  long, in 80–82 % expanded, cylindrus short, 33–36  $\mu\text{m}$ , about 20 % of oesophagus, bulb-like. Nuclei conspicuous. Cardia small, discoid. Distance between posterior end of oesophagus and vulva shorter (0.7 times) than oesophagus. Prerectum 2–2.5, rectum 0.5–0.8 anal diameters long.

Vulva transverse, inner lips not sclerotized. Vagina bottle-shaped, plump, 17–18  $\mu\text{m}$ , more than 1/3 body width long. Opisthodelphic species. Posterior gonad 5.5–6.2 times as long as body width or 30 % of body length, anterior uterine sac 1–1.5 body widths long. Ovary reflexed to near vulva.

Distance vulva-anus 30–33 times as long as tail. The latter 21–23  $\mu\text{m}$ , shorter (0.7–0.9 times) than anal body width, only 2 % of body length, broadly rounded with strongly thickened cuticle.

Testes two. Spermatozoa 8  $\mu\text{m}$  long, fusiform, 1/4–1/5 as long as body width. Spicula long, 42–45  $\mu\text{m}$ , the double of tail length, very slender, differing from general dorylaimid type. Adcloacal papillae a little more distant from cloaca than usual, levelling one with other. A single conspicuous ventromedial supplement present, located at 36–46  $\mu\text{m}$  from cloaca, somewhat anterior or posterior to proximal end of spicula. Copulatory musculature more oblique than in other dorylaims. Tail 20–24  $\mu\text{m}$ , somewhat shorter than anal

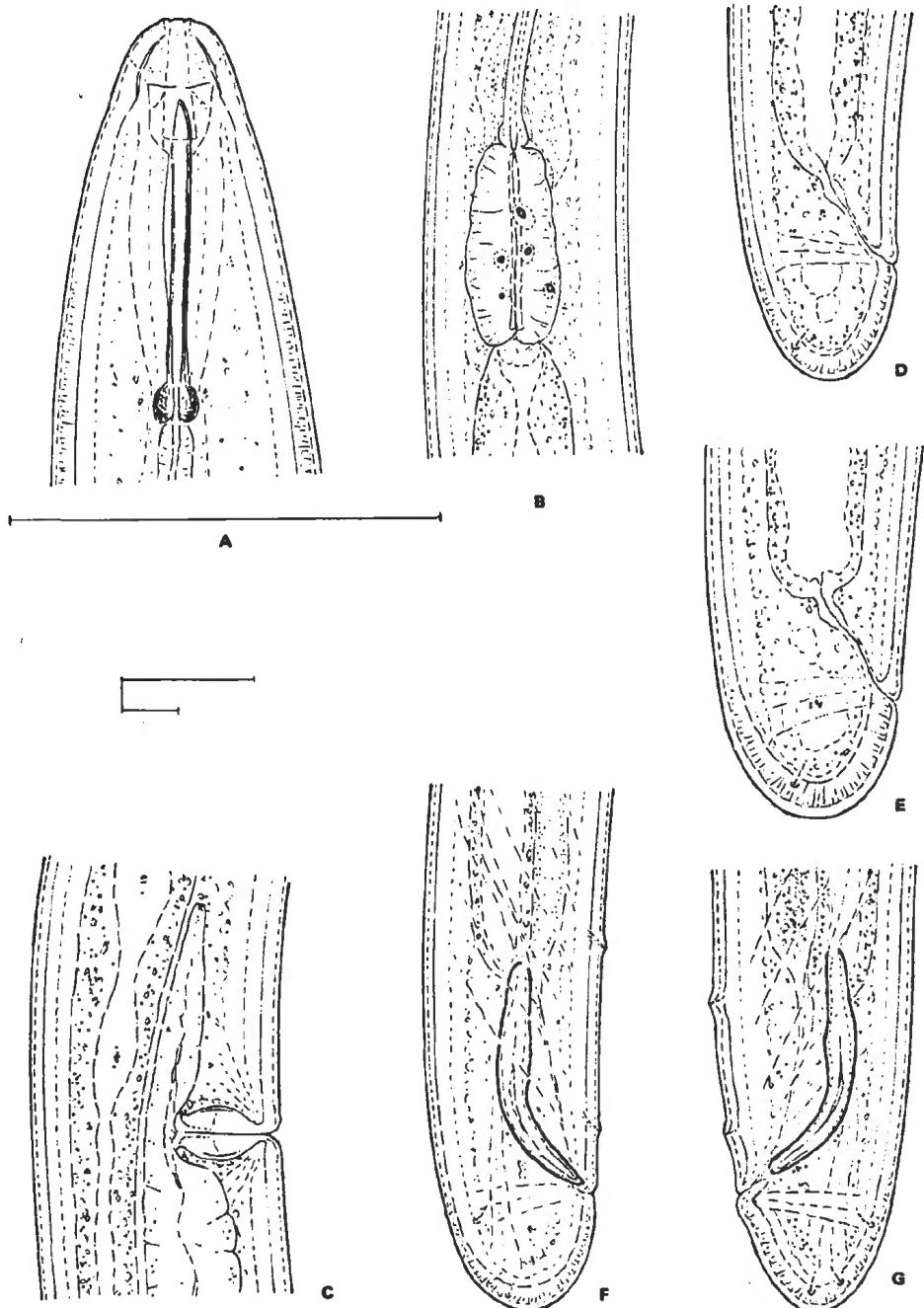


Fig. 3. *Tylencholaimellus neotropicus* sp. n. A: anterior end, and body width at posterior end of oesophagus; B: oesophagus cylindrus; C: vulval region; D-E: female tails; F-G: posterior ends of two males. (Bars = 10  $\mu\text{m}$  each; upper: A, lower: B-G)

diameter (0.7–0.8 times), about 2 % of body length, similar to that of female, with three pairs of small papillae.

The genus *Tylencholaimellus* COBB in COBB, 1915 counts 40 nominal species. Among them, only two are known which possess very long spicula of about two tail lengths: *T. macrophallus* THORNE, 1964 and *T. cylindricus* PEÑA SANTIAGO, PERALTA & SIDDIQI, 1993. Both *macrophallus* and *cylindricus* are characterized in having no precloacal supplement at all. The new species, *T. neotropicus* sp. n., unambiguously differs from them in having a conspicuous ventromedial supplement. Unfortunately, it is not clear how many males had THORNE studies; he wrote: „Holotype female, allotype and 19 other specimens”. PEÑA SANTIAGO and co-authors observed three males all showing no trace of supplement, while each male (3 specimens) of the recent material was provided with a well discernible supplementary papilla. We may suppose that presence/absence of supplements is characteristic and constant for a species.

In their *Tylencholaimellus* revision, GOSECO, FERRIS and FERRIS (1975) described a male specimen under the name *T. macrophallus*. An identity with *macrophallus* may be argued by the fact that they – just like THORNE – collected that male around palm roots in Puerto Rico. Whereas, it shall be mentioned as counter-argument for identification that their animal was provided with an „indistinct” (?) supplementary papilla. Farther, the spear showed an other shape. While „the dorsal accessory piece of spear extending about half its length” (THORNE), it was illustrated as occupying two-thirds of spear length by GOSECO. Last but not least, another difference weakens the identification of GOSECO and colleagues: the length of spicula amounted about 60 µm at THORNE (calculated from the drawing), but it was only 44 µm in the other authors. For this it is questionable that the 1975 male really belonged to THORNE’s species.

Holotype: Male; Slide Number 13429. Paratypi: 2 females, 2 males and 1 juvenile.

Type locality: Pusuno, Prov. Napo, Ecuador; fallen leaves from a „young” rain forest, 300 m above sea-level; collected in April 1987 by I. LOKSA and A. ZICSI.

## II. *Pachydorylaimus* Siddiqi, 1983 and *Miodorylaimus* Andrassy, 1986, two nematode genera known, heretofore, from South America

The distribution of free-living species of Nematoda is predominantly determined by ecological conditions (humidity, microclimate, food chances etc.), geographical factors play only secondary role in their occurrence. Similar case is seen in supraspecific categories: the number of genera, even families circumscribed to definite geographical units is small. Best known in this respect is the family Actinolaimidae: not every but the overwhelming majority of its species inhabits the subtropical-tropical zones of our Globe.

In this part of the present article two dorylaimid genera are presented which do show a geographical limitation: both have been described from South America, and their species, in our present-day knowledge, are distributed only in the neotropics. *Pachydorylaimus* SIDDIQI, 1983 (Qudsianematidae) is the one. SIDDIQI erected this genus for four species all had been discovered in rain forests of Colombia. The other is *Miodorylaimus* ANDRASSY, 1986 (Dorylaimidae). It was proposed for two species discovered in Peru.

In a rich nematode material originated from Ecuador I found now some species of the above mentioned genera – two new and a known – which shall be reported below. The present material was collected between 1986 and 1990 in different parts of Ecuador by the late Dr. I. LOKSA, furthermore by Dr. A. ZICSI and Dr. Cs. CSUZDI (Department of Systematic Zoology and Ecology of the Loránd Eötvös University, Budapest). The material

was fixed on the pot in 4 % formaldehyde, and after separation from soil in the laboratory the nematodes were mounted in anhydrous glycerine.

*Pachydorylaimus* SIDDIQI, 1983

A well outlined dorylaimid genus, it may be characterized, after SIDDIQI's description, by small body, truncate lip region, narrow amphids of oval apertures, short but heavily sclerotized odontostyle showing rounded tip and posteriorly bifurcate walls, weakly flanged odontophore, paired gonads possessing short arms, conoid-elongate tail being similar in both sexes, and few and weakly expressed copulatory supplements in male.

SIDDIQI regarded his genus as belonging to the type subfamily of Qudsianematidae. In general morphology, *Pachydorylaimus* suits well this family indeed, only the comparatively long tail is strange a little for the group. A quite similar spear shape can be found in an other dorylaimid genus, *Metadorylaimus* JAIRAJPURI & GOODEY, 1966. The type and only species was described from West Africa; it differs from every representative of *Pachydorylaimus* by the cap-like leptochiid head, very thick cuticle, non-flanged spear extension, and the short, broadly rounded tail.

Four species of *Pachydorylaimus* have been described: *P. furcatus* SIDDIQI, 1983; *P. longicaudatus* SIDDIQI, 1983; *P. notabenus* SIDDIQI, 1983; *P. pachyvulvus* SIDDIQI, 1983. It is remarkable that all of these species have been discovered in one country: in rain forest regions of Colombia. Every species is a real unit well separated from the others. In my Ecuador material I found two representatives of SIDDIQI's genus. Although in shape of the amphids some difference can be observed, the Ecuadorian nematodes – two distinct species – do belong undoubtedly to *Pachydorylaimus*. Nevertheless, they can not be identified with one or other of the Colombian species; both represent further members of the genus. Thus, *Pachydorylaimus* can be considered, in all likelihood, a characteristic genus in the neotrope region where it shows an interesting evolutionary trend in splitting up into sister-species. That there is a tendency of tearing up within the genus itself as well, it is expressed in the different appearance of amphids in the four Colombian species on the one hand and in the two Ecuadorian ones in the other hand.

*Pachydorylaimus aequatorialis* sp. n.

(Figs. 4 A-D, 5 A-C and 6 A-B)

Holotype, female: L = 1.06 mm; a = 24; b = 4.0; c = 6.1; V = 48 %; c' = 6.5.

Female: L = 0.90–1.03 mm; a = 20–23; b = 3.9–4.3; c = 5.3–6.3; V = 43–51 %; c' = 6.5–7.8.

Male: L = 1.13 mm; a = 34; b = 5.3; c = 6.3; c' = 7.5.

Body fairly robust, 43–47 (female) or 33 (male)  $\mu\text{m}$  wide in mid-region. Cuticle 1.3–1.5  $\mu\text{m}$  thick, smooth, subcuticle with fine radial striation. Labial region truncate, anteriorly flattened, 19–20  $\mu\text{m}$  wide, slightly separated from neck region. Lips rounded, amalgamated. Amphids broad cup-like, 40–50 % of corresponding body width, aperture a narrow slit. Body at posterior end of oesophagus 2.2–2.4 times as wide as head.

Atrium of buccal cavity slightly sclerotized. Spear (odontostyle) short and massive, 15–16  $\mu\text{m}$  long and 3.3–3.5  $\mu\text{m}$  thick, 1/14–1/17 of oesophagus length; in male somewhat shorter, 13  $\mu\text{m}$ , 1/16 of oesophagus, at least twice as thick as cuticle at the same level. Tip of spear rounded, aperture small; walls very thick, posteriorly bifurcate. Odontophore 28–

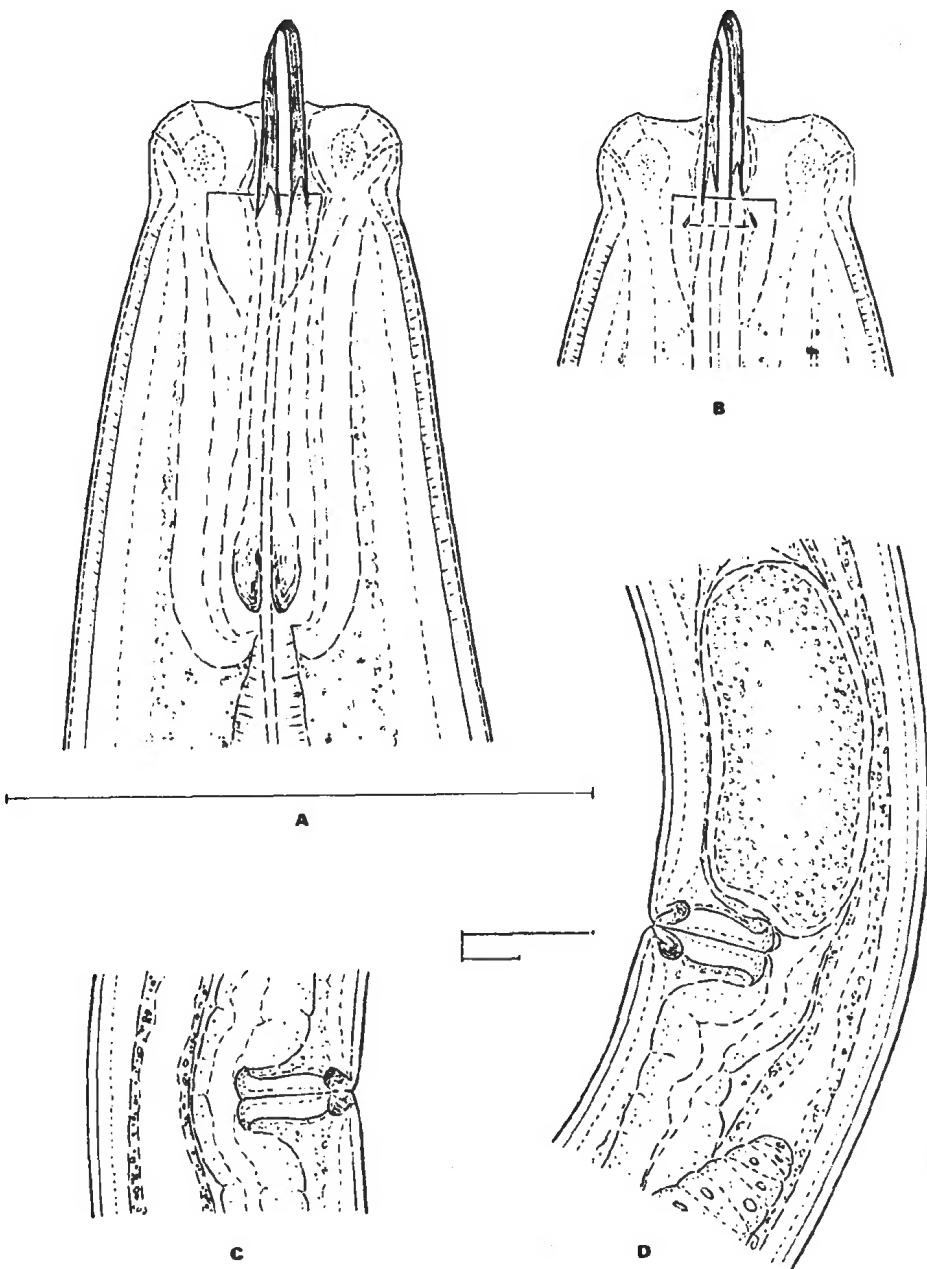


Fig. 4. *Pachydorylaimus aequatorialis* sp. n. A: anterior ends of two specimens; C-D: vulval regions of two females. (Bars = 10  $\mu\text{m}$  each; upper: A-B, lower: C-D)

30  $\mu\text{m}$ , 1.9–2 times as long as spear, weakly flanged proximally. Oesophagus 224–263  $\mu\text{m}$  long, in 52–53 % widened. Cylindrus – the proximal widened region of oesophagus – 123–137  $\mu\text{m}$  long, 5–6 times as long as wide. Oesophageal nuclei well discernible; dorsal nucleus close to the beginning of cylindrus, anterior subventral pair at middle of cylindrus, posterior pair about one cylindrus width before oesophagus terminus. Cardia tongue-shaped. Distance between oesophagus end and vulva equal with oesophagus. Intestine thin-walled with wide lumen, often filled with a compact mass of food rests. Prerectum short, 1.4–1.8, rectum 1.1–1.2 anal diameters.

Vulva transverse with distinctly sclerotized inner lips. Vagina 23–24  $\mu\text{m}$ , nearly half as long as body diameter. Female genital organ amphidelphic, gonads short, each as long as 2.3–3 body widths. Anterior gonad mostly on the right, posterior on the left side of body. Ovaries consisting of few cells (9–14 each). One egg was observed: 68  $\times$  30  $\mu\text{m}$ , 1.5 body diameters long.

Distance between vulva and anus 2–2.3 times as long as tail. The latter 173–198  $\mu\text{m}$ , 6.5–7.8 anal body widths long, or 16–19 % of body length, elongate with fine conoid tip. Protoplasmatic core reaching to posterior third of tail (to 60–70 % of tail length). Tail often dorsally bent, and possessing two pairs of small papillae.

Male similar to female but more slender. Testes two. Spermatozoa fusiform, 8–9  $\mu\text{m}$ , as long as 1/4 body width. Spicula dorylaimid, 46  $\mu\text{m}$ , about as long as 1/4 tail. Lateral guiding pieces of 1/3 spicula length. Adcloacal papillae not levelling completely. Ventromedial supplements somewhat uncertain; only five widely separated fine innervations can be seen which are unpaired-ventral (that is they do not belong to paired subventral papillae) and lie far each from other. The anteriormost of them is located at a distance of 175  $\mu\text{m}$  or about at one tail length from cloaca. Prerectum much longer than in female: 6.5 anal body widths, its junction with mid-intestine located at level of the first supplementary canal. Tail 180  $\mu\text{m}$ , 7.8 anal diameters.

*Pachydorylaimus aequatorialis* sp. n. well corresponds to the general criteria of the genus, except, the amphids do not show that narrow shape and oval aperture described and drawn by SIDDIQI for all his four species. The new species distinctly differs from every other in having a longer body, wider amphids with slit-like aperture, conspicuously sclerotized vulva and long tail. It differs from the longest-tailed species known so far, *P. longicaudatus* SIDDIQI, 1983: body distinctly bigger (0.90–1.13 vs. 0.54–0.66 mm), spear longer (15–16 vs. 7.5–10  $\mu\text{m}$ ), vulval lips sclerotized, ovary consisting of more cells (9–14 vs. 4–7), tail longer (173–198 vs. 94–110  $\mu\text{m}$ ).

Holotype: Female; Slide Number 13045. Further specimens: 3 females, 1 juvenile.

Type locality: Cosanga, Las Caucheras, Prov. Napo, Ecuador; soil from a primary rain forest at 2100 m above sea-level; collected in February (2 females). Other localities: a) Rio Jondachi, Prov. Napo, Ecuador; soil from a gallery forest; collected in April (1 male). b) Santa Barbara, Prov. Carchi, Ecuador; soil from a secondary rain forest; collected in April (2 females). Every sample was collected by I. LOKSA and A. ZICSI.

***Pachydorylaimus andreasi* sp. n.**  
(Fig. 7 A–D)

Holotype, female: L = 0.76 mm; a = 19; b = 4.1; c = 9.2; V = 50 %; c' = 4.2.

Body plump, 19  $\mu\text{m}$  wide at middle. Cuticle smooth, 1.2–1.3  $\mu\text{m}$  thick, subcuticle very finely striated. Head 15  $\mu\text{m}$  wide, broad, distinctly separated from neck region. Lips

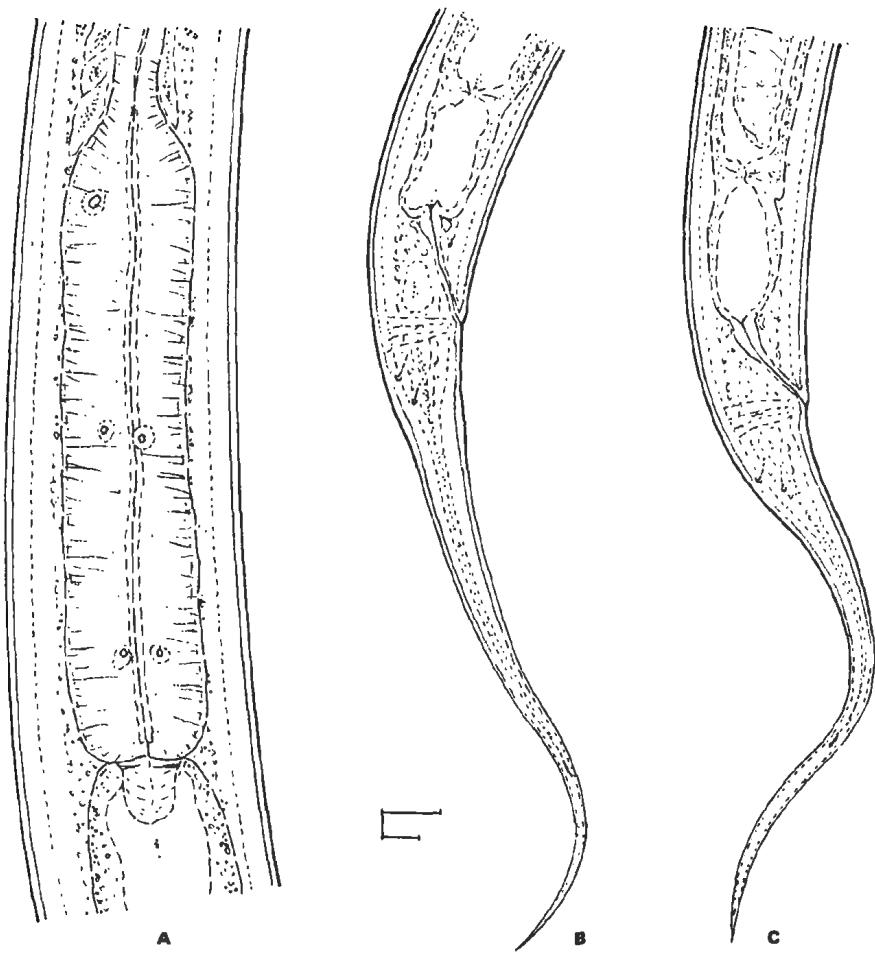


Fig. 5. *Pachydorylaimus aequatorialis* sp. n. A: posterior end (cylindrus) of oesophagus; B-C: female tails.  
(Bars = 10  $\mu\text{m}$  each; upper: A, lower: B-C)

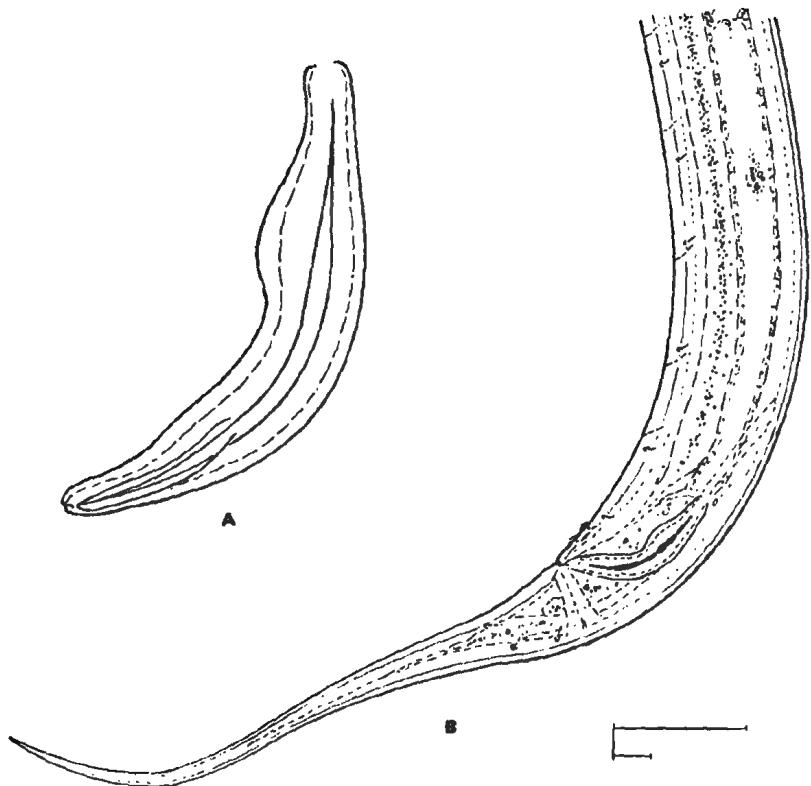


Fig. 6. *Pachydorylaimus aequatorialis* sp. n. A: spiculum; B: posterior end of male. (Bars = 10  $\mu\text{m}$  each;  
upper: A, lower: B)

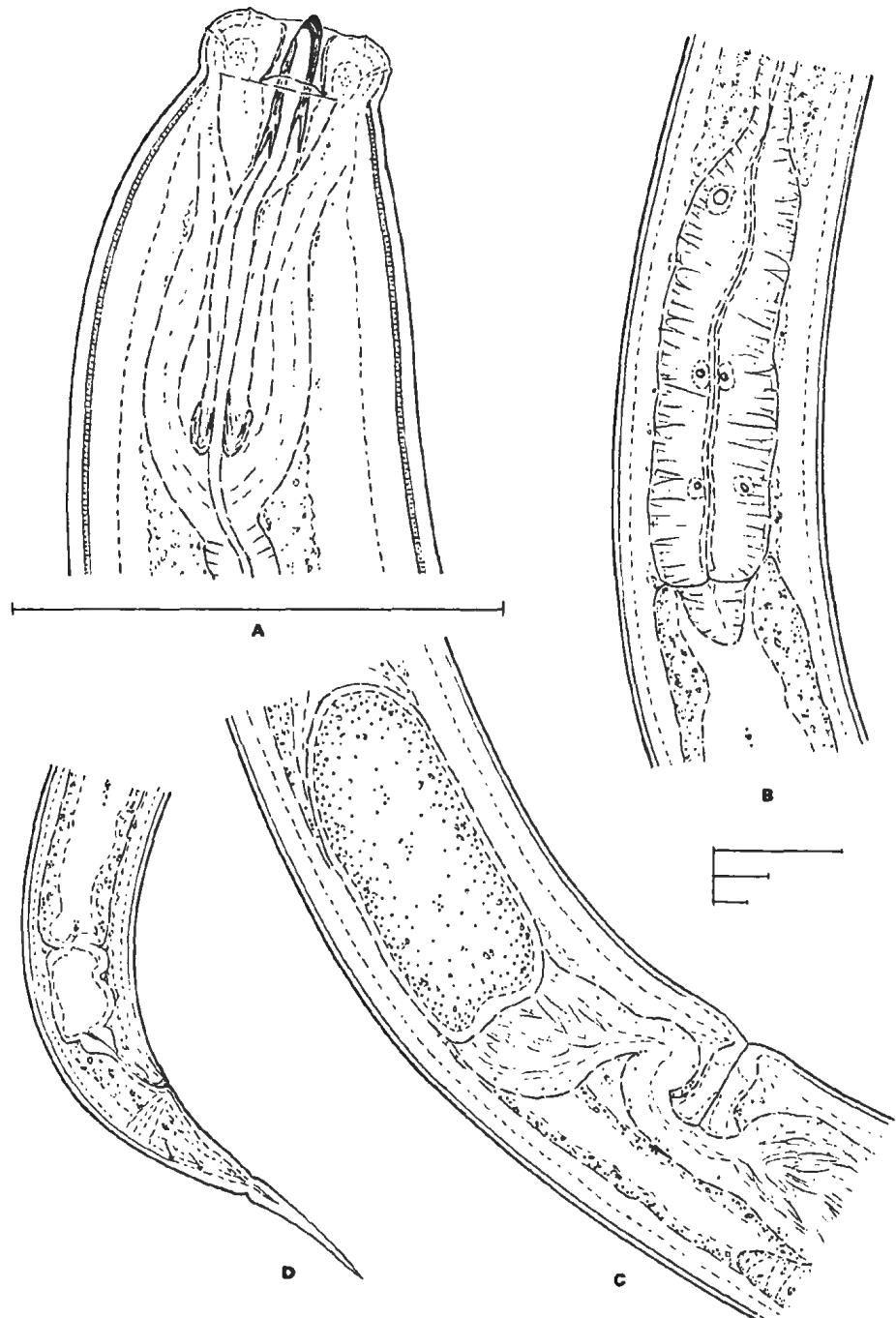


Fig. 7. *Pachydorylaimus andreasii* sp. n. A: anterior end, and body width at proximal end of oesophagus; B: oesophagus cylindrus; C: vulval region with egg; D: female posterior end. (Bars = 10  $\mu\text{m}$  each; upper: A, middle: B-C, lower: D)

rounded. Body at proximal end of oesophagus 2.6 times as wide as head. Amphids unusually large, 65 % of corresponding body diameter, stirrup-shaped; aperture slit-like.

Atrium weakly sclerotized. Spear short and robust, 13  $\mu\text{m}$  long and 3.3  $\mu\text{m}$  wide, shorter than labial diameter, 1/14 of oesophagus length; aperture small. Tip of spear rounded, posterior end – especially the ventral wall – bifurcate. Odontophore 26  $\mu\text{m}$ , twice as long as odontostyle, showing faint flanges. Oesophagus 187  $\mu\text{m}$  long, widened in 56 % of its length. Cylindrus 82  $\mu\text{m}$ , nearly four times as long as wide. Arrangement of oesophageal nuclei similar to that of the previous species. Cardia short, tongue-like. Intestine with thin wall and wide lumen. Prerectum and rectum equal in length, 1.2 times as long as anal body width. Distance between posterior end of oesophagus and vulva equal with oesophagus length.

Vulva transverse, inner lips practically not sclerotized. Vagina shorter than half a body width. Gonads amphidelphic, anterior branch 4.3, posterior 4 body diameters long. Anterior gonad reaching to the vicinity of cardial region. Ovaries consisting of 11–12 cells each. One egg could be observed: 96  $\times$  28  $\mu\text{m}$ , 1.6 times as long as body width. Uterus packed with fusiform spermatozoa. Both gonads lying on the right body side.

Distance between vulva and anus 3.6 times as long as tail. Tail 83  $\mu\text{m}$ , 4.2 anal diameters long, 11 % of body length, elongate-conoid with sharply pointed tip; at mid-region a dorsal constriction can be seen (probably an individual feature only). Protoplasmatic core occupying 55 % of tail length. Two pairs of small papillae present.

Male not found.

In shape of tail, *Pachydorylaimus andreasi* sp. n. resembles *P. furcatus* SIDDIQI, 1983, it can be distinguished however from that in having somewhat longer spear (13 vs. 9–11  $\mu\text{m}$ ), longer gonads (4–4.3 vs. 1.7–2.1 body widths), longer core in tail (55 vs. 40 %), and above all, in having much larger amphids. This new species differs from the other new one, *P. aequatorialis* sp. n.: body smaller (0.76 vs. 0.9–1.13 mm), spear shorter (13 vs. 15–16  $\mu\text{m}$ ), gonads and egg longer, tail considerably shorter (83 vs. 173–198  $\mu\text{m}$ , or 4.2 vs. 6.5–7.8 anal diameters), amphids more larger.

Holotype: Female; Slide Number 13181. Paratypi: 2 juveniles.

Type locality: Santo Domingo, Prov. Pichincha, Ecuador; fallen leaves on the shore of a lake, 3000 m above sea-level; collected in April 1988 by A. ZICSI and Cs. CSUZDI.

This species is named in honour of Dr. ANDRÁS (=ANDREAS) ZICSI, to whom I am indebted for the very valuable nematode collections from Ecuador.

### *Miodorylaimus* ANDRÁSSY, 1986

This genus was proposed in a paper discussing the taxonomy of the genus *Mesodorylaimus* ANDRÁSSY, 1959. I found then that some groups of *Mesodorylaimus*-like species did not fit completely to the picture as generally known for the genus. One of these groups was then called *Miodorylaimus*. It is a small genus containing two species merely. Undoubtedly, it is a close relative of *Mesodorylaimus*, shows however some different characteristics like a slender body, thin cuticle, completely unsclerotized vulva, and more elongate, more or less semilunar male tail.

Two species, both collected in Peru, have been described: *Miodorylaimus decens* ANDRÁSSY, 1986 and *M. iucundus* ANDRÁSSY, 1986. In the recent material from Ecuador I found some specimens of the type species, *M. decens*. Although they agreed with the original description very well, I think to be worth describing them below to get a more definite picture on morphology of this remarkable genus/species.

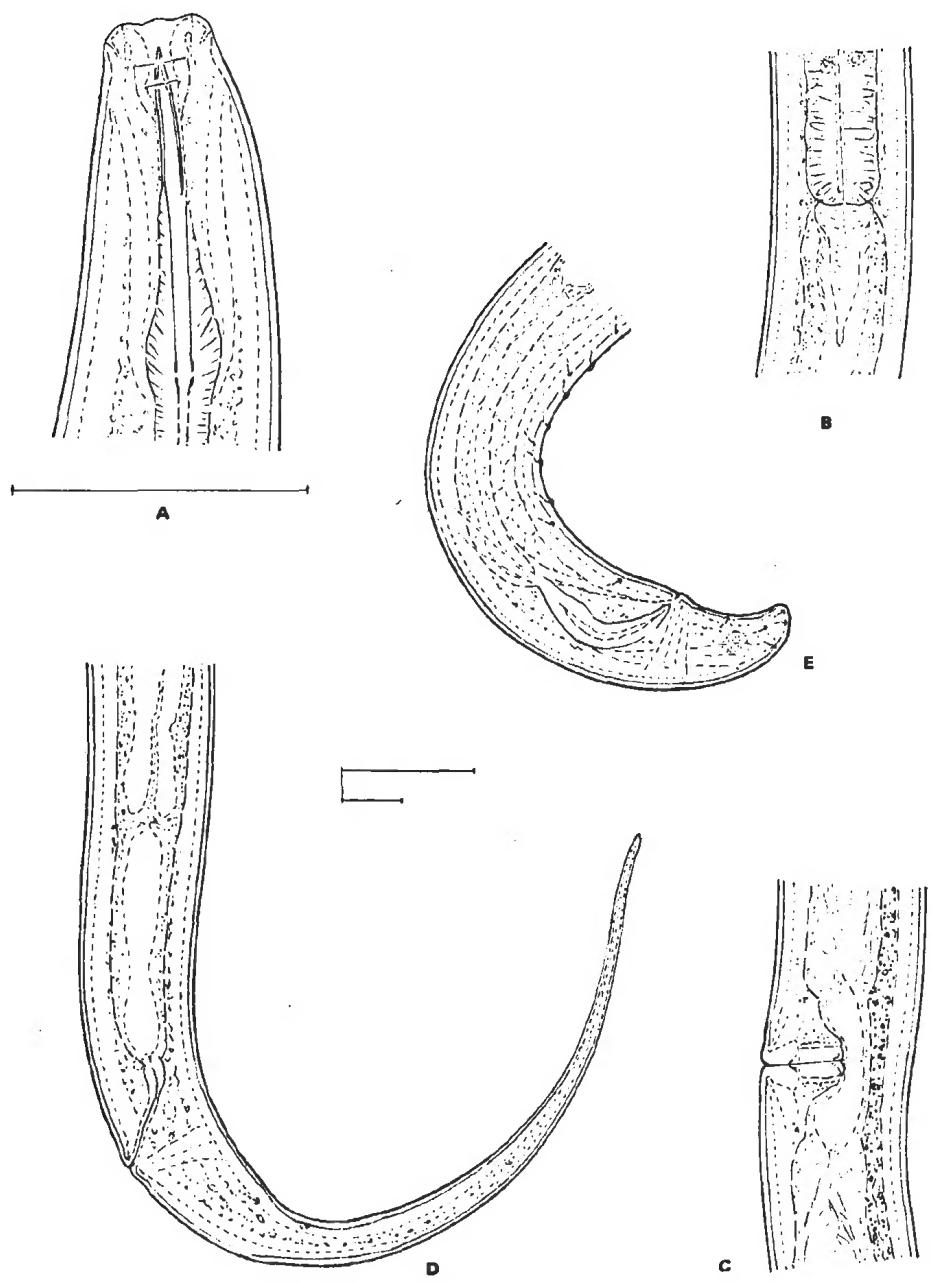


Fig. 8. *Miodorylaimus decens* ANDRÁSSY, 1986. A: anterior region, and body width at posterior end of oesophagus; B: cardial region; C: vulval region; D: posterior end of female; E: posterior end of male.  
(Bars = 10  $\mu\text{m}$  each; upper: A, lower: B-E)

*Miodorylaimus decens* ANDRÁSSY, 1986  
(Fig. 8 A-E)

Female: L = 1.19 mm; a = 45; b = 4.4; c = 8.8; V = 50 %; c' = 8.

Male: L = 0.85 mm; a = 36; b = 4.0; c = 40; c' = 1.2.

Body very slender, 26  $\mu\text{m}$  in mid-region. Cuticle thin, 0.7–0.8  $\mu\text{m}$ , smooth. Labial region not set off from body, 9.5 (female) or 8 (male)  $\mu\text{m}$  wide. Body at posterior end of oesophagus 2.6–2.9 times as wide as head. Amphids occupying one half body width.

Spear 12 (female) or 11 (male)  $\mu\text{m}$ , 1.3–1.4 times as long as labial diameter, or 4–5 % of oesophagus length, considerably thicker than cuticle at the same level. Spear aperture more than 1/3. Oesophagus 276 (female) or 215 (male)  $\mu\text{m}$  long, at 57–59 % widened. Cylindrus 112 (female) or 95 (male)  $\mu\text{m}$  long. Since the anterior half of oesophagus is comparatively wide the widening at cylindrus is gradual. Oesophageal nuclei distinct; dorsal nucleus large, one cylindrus width from beginning of the widened region, subventral nuclei small, anterior pair in mid-zone of cylindrus, posterior pair at two cylindrus widths from oesophagus terminus. Cardia long, elongate-conoid. Distance between posterior end of oesophagus and vulva slightly longer than oesophagus. Prerectum 3.3 anal widths long, rectum equal with anal diameter.

Vulva transverse, inner lips not sclerotized. Vagina as long as half a body width (14  $\mu\text{m}$ ), consisting of an outer wider and an inner narrower portion. Amphidelphic. Each gonad 5.5–6 body diameters long.

Male tail short, 21  $\mu\text{m}$ , 1.2 anal diameters, 2.5 % of body length, on the whole semilunar in shape, ventrally bent, rounded on tip. Testes two; spermatozoa large, 8  $\mu\text{m}$ , 1/3 of corresponding body width, fusiform. Spicula dorylaimid, 25  $\mu\text{m}$ . Ventromedial supplements 5 in number, equally spaced, all lying anterior to spicula; the anteriormost located at 60  $\mu\text{m}$  from cloaca. Prerectum much longer than in female, prerectal junction with intestine located before the supplements.

The recent specimens completely agreed with the Peruvian ones, with a one exception: the male possessed five copulatory supplements instead of four.

Locality: Flavio Alfaro, Prov. Manabi, Ecuador; 300 m above sea-level, soil in a bamboo forest; collected in April 1990 by A. ZICSI and Cs. CSUZDI.

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